

## CLAIMS

What is claimed is:

1. A method of surveying a track, comprising the steps of:
  - a) positioning a first and a second measuring vehicle at end points, respectively, of a track section to be measured during a measuring cycle, the first measuring vehicle being designed for mobility independently of the second measuring vehicle which is stationary during the measuring operation;
  - b) determining, at the start of each measuring cycle, position coordinates of the stationary, second measuring vehicle, with the aid of a GPS receiver mounted thereon, relative to a fixedly installed GPS reference station located adjacent the track section to be measured, the coordinates of the GPS reference station being known within a terrestrial coordinate system;
  - c) setting up a reference line in the form of an optical measuring beam between an emitter mounted on the second measuring vehicle and a receiving unit mounted on the first measuring vehicle;
  - d) aligning the reference line with the first measuring vehicle on the basis of the determined position data;
  - e) advancing the mobile, first measuring vehicle in the direction towards the stationary, second measuring vehicle to carry out the track surveying operation; and
  - f) registering as a ~~correction~~ measurement value any change in position of the receiving unit mounted on the first measuring vehicle relative to the reference line.

